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EXAMINER	
CHEN, QING	
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2191	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/05/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/657,726	AIGNER ET AL.	
	Examiner	Art Unit	
	Qing Chen	2191	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 September 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 March 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *20050624*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This is the initial Office action based on the application filed on September 8, 2003.

2. **Claims 1-41** are pending.

Information Disclosure Statement

3. The information disclosure statement filed June 24, 2005 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Drawings

4. The replacement drawings were received on March 12, 2004. The drawings are not acceptable because of non-compliance with 37 CFR § 1.121(d). Any changes to an application drawing must be in compliance with 37 CFR § 1.84 and must be submitted on a replacement sheet of drawings, which shall be an attachment to the amendment document and, in the top margin, labeled "Replacement Sheet."

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description:

- Reference number "526" in Figure 5D.
- Reference number "816" in Figure 8K.

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application.

5. The drawings are objected to because the element "HCM" in Figures 3 and 6 is not defined in the specification. However, "HRM" is defined in the specification, so therefore, the element "HCM" should presumably read "HRM." Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application.

Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the Examiner, the Applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

6. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Application Framework for Developing and Implementing a Composite Application.

7. The abstract of the disclosure is objected to because the first sentence is missing a verb. It should presumably read "Systems and techniques to develop and execute a composite application may include an application framework are disclosed." Correction is required. See MPEP § 608.01(b).

8. The disclosure is objected to because of the following informalities:

- The specification contains the following typographical errors:
  - The reference number "416" should be changed to "413" on page 35, paragraph [00109], since reference number "413" is used to designate "relation modeler" in Figure 4.
  - The reference number "422" should be changed to "415" on page 35, paragraph [00109], since reference number "415" is used to designate "generation API" in Figure 4.
  - The reference number "812" should be changed to "810" on page 47, paragraph [00157], since reference number "810" is included in Figure 8E.

- The specification does not define what the acronym "HCM" stands for. However, the specification does provide a definition for the acronym "HRM," so therefore, "HCM" should presumably read "HRM."

Appropriate correction is required.

9. The use of trademarks, such as JAVA, JSP, SUN, J2EE, EJB, JAVASCRIPT, MICROSOFT, INTERNET EXPLORER, and NETSCAPE NAVIGATOR, has been noted in this application. Trademarks should be capitalized wherever they appear (capitalize each letter OR accompany each trademark with an appropriate designation symbol, *e.g.*, ™ or ®) and be accompanied by the generic terminology (use trademarks as adjectives modifying a descriptive noun, *e.g.*, "the JAVA programming language").

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner, which might adversely affect their validity as trademarks.

10. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

11. **Claims 17, 26, and 27** are objected to because of the following informalities:

- **Claim 17** contains a typographical error: the phrase "wherein generating executable code further comprises ..." should presumably read "wherein generating executable code for a composite application further comprises ..."
- **Claim 26** contains a typographical error: the phrase "wherein generating executing code for a composite application coding a template ..." should presumably read "wherein generating executing code for a composite application comprises coding a template ..."
- **Claim 27** contains a typographical error: the phrase "wherein generating a executable code further comprises ..." should presumably read "wherein generating executable code for a composite application further comprises ..."

Appropriate correction is required.

Claim Rejections - 35 USC § 112

12. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

13. **Claims 9-41** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 9 and 34 recite the limitations "the user interface elements" and "the user interface." There is insufficient antecedent basis for these limitations in the claims. In the interest of compact prosecution, the Examiner subsequently interprets these limitations as reading "user

interface elements" and "the user interface framework," respectively, for the purpose of further examination.

Claims 35-41 depend on Claim 34 and, therefore, suffer the same deficiency as Claim 34.

Claims 10, 13, 34, and 37 recite the limitation "the modeled business object." There is insufficient antecedent basis for this limitation in the claims. In the interest of compact prosecution, the Examiner subsequently interprets this limitation as reading "the business object" for the purpose of further examination.

Claims 11 and 12 depend on Claim 10 and, therefore, suffer the same deficiency as Claim 10.

Claim 14 depends on Claim 13 and, therefore, suffers the same deficiency as Claim 13.

Claims 35 and 36 depend on Claim 34 and, therefore, suffer the same deficiency as Claim 34.

Claims 15 and 25 recite the limitation "the enterprise base system data." There is insufficient antecedent basis for this limitation in the claims. In the interest of compact prosecution, the Examiner subsequently interprets this limitation as reading "the data" for the purpose of further examination.

Claims 16-24 depend on Claim 15 and, therefore, suffer the same deficiency as Claim 15.

Claims 26-33 depend on Claim 25 and, therefore, suffer the same deficiency as Claim 25.

Claims 24 and 33 recite the limitation "the specifications." There is insufficient antecedent basis for this limitation in the claims. In the interest of compact prosecution, the Examiner subsequently interprets this limitation as reading "the specification" for the purpose of further examination.

Claims 32 and 33 recite the limitation "the business object." There is insufficient antecedent basis for this limitation in the claims. In the interest of compact prosecution, the Examiner subsequently interprets this limitation as reading "a business object" for the purpose of further examination.

Claim Rejections - 35 USC § 101

14. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

15. **Claims 1-41** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1-14 and 34-41 are directed to frameworks. However, the recited components of the frameworks appear to lack the necessary physical components (hardware) to constitute a machine or manufacture under § 101. Therefore, these claim limitations can be reasonably interpreted as computer program modules—software *per se*. Furthermore, the specification discloses that various implementations of the systems and techniques may be realized in firmware and/or software *(see Page 54, Paragraph [00188])*. Therefore, the claims are directed to functional descriptive material *per se*, and hence non-statutory.

The claims constitute computer programs representing computer listings *per se*. Such descriptions or expressions of the programs are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer, which permit the computer program's functionality to be realized. In contrast, a claimed computer-readable medium encoded with a computer program is a computer element, which defines structural and functional interrelationships between the computer program and the rest of the computer, that permits the computer program's functionality to be realized, and is thus statutory. See *Lowry*, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

The result of **Claims 15-24** is directed to the act of "facilitating," which does not appear to be a tangible result so as to constitute a practical application of the idea. The act of "facilitating" is merely a thought or an abstract idea and does not appear to produce a tangible result even if the step of facilitation does occur, since the result of that facilitation is not

conveyed in the real world. The result is a facilitation, which is neither used in a disclosed practical application nor made available for use in a disclosed practical application. It also does not appear that the usefulness of the facilitation can be realized from the claimed steps to support a disclosed specific, substantial, and credible utility so as to produce a useful result.

Therefore, the claims do not meet the statutory requirement of 35 U.S.C. § 101, since the claims are not directed to a practical application of the § 101 judicial exception producing a result tied to the physical world.

Claims 25-33 recite machine-readable medium as a claimed element. However, it is noted that the specification defines "machine-readable medium" as any (emphasis added) computer program product, apparatus, and/or device *(see Page 55, Paragraph [00189]).* Therefore, this definition does not preclude the interpretation of machine-readable medium as embracing electrical signals. In addition, the specification describes such machine-readable medium as receiving machine instructions as a machine-readable signal *(see Page 55, Paragraph [00189]).* Consequently, the machine-readable medium can be reasonably interpreted as carrying electrical signals.

Claims that recite nothing but the physical characteristics of a form of energy, such as a frequency, voltage, or the strength of a magnetic field, define energy or magnetism *per se*, and as such are nonstatutory natural phenomena. *O'Reilly v. Morse*, 56 U.S. (15 How.) 62, 112-14 (1853). Moreover, it does not appear that a claim reciting a signal encoded with functional descriptive material falls within any of the categories of patentable subject matter set forth in § 101.

Claim Rejections - 35 USC § 102

16. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

17. **Claims 1-3, 5-13, 15, 16, 18, 19, 21-26, 28, and 30-33** are rejected under 35 U.S.C. 102(e) as being anticipated by **Burke et al. (US 6,789,252)**.

As per **Claim 1**, Burke et al. disclose:

- an object access layer operable to exchange data with a plurality of enterprise base systems and to present the data to a composite application through a uniform interface *(see Figure 34; Column 34: 20-29, "As shown in FIG. 30, the preferred deployment environment includes an integration framework for providing an interface between the business object definition system of the invention and existing enterprise applications." and "The integration framework enables the business object definition system to receive and distribute data to create a seamless gateway between the business object definition system and existing enterprise systems.")*;

- a service layer operable to provide services to the composite application *(see Figure 34; Column 40: 51-61, "The Product Composition System component provides for the creation*

and manipulation of product specifications and other order-related business objects." and "The Order Management System functionality (which is founded on the Business Object Definition System functionality) includes order management, product composition, pricing, credit check, customer management, and session security."); and

- a user interface layer operable to provide user interface patterns that facilitate information exchange between the composite application and a user *(see Figure 34; Column 24: 64-66, "The Explorer and Instance Editor allow a user to view, add, change or delete an instance of object definition.").*

As per **Claim 2**, the rejection of **Claim 1** is incorporated; and Burke et al. further disclose:

- wherein a composite application comprises business objects, business services, and business processes, wherein a business service comprises an action performed on a business object, and a business process comprises a combination of business services *(see Column 37: 65-67 through Column 38: 1-28, "A Product Composition System assembled in accordance with the invention provides users with an ability to easily and quickly define new products, dynamically define new attributes, create any required specification or definition, and formalize knowledge ..." and "The business object definition system provides the Product Composition System with attribute-based specification definition, composition and revision control for product models, customer product preferences, manufacturing capabilities, and operator instructions among others.").*

As per **Claim 3**, the rejection of **Claim 1** is incorporated; and Burke et al. further disclose:

- a database for composite application data, wherein the object access layer is further operable to provide local persistency in the database *(see Column 34: 6-8, "The database server computer 146 also is configured with a SQL relational database system (RDBMS) for creating and maintaining the database.")*.

As per **Claim 5**, the rejection of **Claim 1** is incorporated; and Burke et al. further disclose:

- a collaboration services module operable to provide a collaboration service to the composite application *(see Column 52: 50-54, "A Collaborative Design System can be assembled using the business object definition system components in accordance with the invention. Such a Collaborative Design System will allow multiple parties participate in the design and specification of a business object.")*; and

- a workflow services module operable to provide a workflow to the composite application *(see Column 53: 21-30, "Requirements for activity addressing satisfaction of a demand can be formalized as workflows. The invention can be used to create a process to direct and control workflow carried out in the satisfaction of the demand.")*.

As per **Claim 6**, the rejection of **Claim 5** is incorporated; and Burke et al. further disclose:

- wherein the collaboration services module is operable to link a semantic object to a business object of the composite application *(see Column 51: 55-59, "The Business Object Definition System provides the ability to form a hierarchical semantic network of knowledge nodes. The objects present at these nodes may take the form of object definitions according to the invention.").*

As per **Claim 7**, the rejection of **Claim 5** is incorporated; and Burke et al. further disclose:

- wherein a workflow comprises templates, workflow patterns, and actions, a template describing a workflow procedure, workflow patterns describing portions of the template, and actions executing functions to carry out the workflow patterns *(see Column 38: 49-61, "... a user creates templates (i.e. models) for the instantiation of different types of specifications. Each template can contain the allowed content along with all the criteria and rules required to create and modify specification instances. All specifications are configurable via their model definitions. The definitions consisting of ingrediential attribute objects and relationship role objects are modeled into user-definable contextual views or logical groupings called "partitions". Partitions serve as user configurable contexts to capture and apply use. Use of the business object definition system guarantees that all specifications regardless of the type will have the same look and feel.").*

As per **Claim 8**, the rejection of **Claim 1** is incorporated; and Burke et al. further disclose:

- wherein the service layer further comprises a container for composite application services, the container operable to provide interfaces for non-framework-generated code *(see Column 40: 44-46, "The Order Management System uses the Integration Framework previously described to link and collaborate with both internal and external systems.").*

As per **Claim 9**, the rejection of **Claim 1** is incorporated; and Burke et al. further disclose:

- wherein the user interface layer further comprises a user interface framework that separates user interface elements from the composite application so that the user interface framework is decoupled from the logic *(see Column 30: 25-31, "The client software, referred to herein as a browser, resides on the user's client computer, and allows the user to create a search request and send that request into the Internet for processing.").*

As per **Claim 10**, the rejection of **Claim 1** is incorporated; and Burke et al. further disclose:

- a business object modeler operable to provide a user interface for constructing a business object *(see Column 25: 6-18, "The Enterprise Explorer software component allows a user to all definitional content of an object from one user interface." and "The user can also execute the following functions against the selected component: Create, Clone, Compose, Compare, Applicability Determination, Capability Assessment, Derive, Renew and Delete.")*; and

- a business object generator operable to generate an executable version of the business object *(see Column 52: 66-67 through Column 53: 1-7, "A Business Wizard can be used to create a new business application function using the business object definition system in accordance with the present invention.").*

As per **Claim 11**, the rejection of **Claim 10** is incorporated; and Burke et al. further disclose:

- wherein the business object modeler comprises an object modeler and a relation modeler *(see Column 18: 32-39, "Company-specific and/or industry-specific ontologies, consisting of a lexicon of predefined ingrediential objects and values in taxonomic form, can be defined to the system as business objects. Content-wise they are organized into various conceptual structures that represent the taxonomies of given industry vertical or product groups.").*

As per **Claim 12**, the rejection of **Claim 10** is incorporated; and Burke et al. further disclose:

- wherein the business object generator comprises a generator framework and a persistency generator *(see Column 53: 1-7, "Using the business object definition system, one can view a business process (e.g., Engineering Change Order, Change Approval, Specification Preparation, Order Management, Negotiated Bid, etc) as a set of components that can include the following: Demands, Objects of Activity, Demand Satisfaction Processes ...").*

As per **Claim 13**, the rejection of **Claim 10** is incorporated; and Burke et al. further disclose:

- wherein the business object generator is operable to code a business object template with metadata and relation data for a business object to generate an executable version of the business object *(see Column 38: 51-53, "Each template can contain the allowed content along with all the criteria and rules required to create and modify specification instances.").*

As per **Claim 15**, Burke et al. disclose:

- generating executable code for a composite application *(see Column 52: 66-67 through Column 53: 1-7, "A Business Wizard can be used to create a new business application function using the business object definition system in accordance with the present invention.");*
- exchanging data with a plurality of enterprise base systems *(see Column 34: 20-29, "The integration framework enables the business object definition system to receive and distribute data to create a seamless gateway between the business object definition system and existing enterprise systems.")*;
- presenting the data to the composite application through a uniform interface *(see Column 34: 20-29, "As shown in FIG. 30, the preferred deployment environment includes an integration framework for providing an interface between the business object definition system of the invention and existing enterprise applications.")*; and
- facilitating a user's interaction with the composite application through user interface patterns *(see Column 24: 64-66, "The Explorer and Instance Editor allow a user to view, add, change or delete an instance of object definition.").*

As per **Claim 16**, the rejection of **Claim 15** is incorporated; and Burke et al. further disclose:

- wherein generating executable code for a composite application comprises coding a template with business object metadata and relation data *(see Column 38: 51-53, "Each template can contain the allowed content along with all the criteria and rules required to create and modify specification instances.").*

As per **Claim 18**, the rejection of **Claim 15** is incorporated; and Burke et al. further disclose:

- wherein a composite application comprises business objects, business services, and business processes, wherein a business service comprises an action performed on a business object, and a business process comprises a combination of business services *(see Column 37: 65-67 through Column 38: 1-28, "A Product Composition System assembled in accordance with the invention provides users with an ability to easily and quickly define new products, dynamically define new attributes, create any required specification or definition, and formalize knowledge ..." and "The business object definition system provides the Product Composition System with attribute-based specification definition, composition and revision control for product models, customer product preferences, manufacturing capabilities, and operator instructions among others.").*

As per **Claim 19**, the rejection of **Claim 15** is incorporated; and Burke et al. further disclose:

- providing local persistency in a database for composite application data *(see Column 34: 6-8, "The database server computer 146 also is configured with a SQL relational database system (RDBMS) for creating and maintaining the database.").*

As per **Claim 21**, the rejection of **Claim 15** is incorporated; and Burke et al. further disclose:

- providing a collaboration service to the composite application *(see Column 52: 50-54, "A Collaborative Design System can be assembled using the business object definition system components in accordance with the invention. Such a Collaborative Design System will allow multiple parties participate in the design and specification of a business object.")*; and

- providing a workflow to the composite application *(see Column 53: 21-30, "Requirements for activity addressing satisfaction of a demand can be formalized as workflows. The invention can be used to create a process to direct and control workflow carried out in the satisfaction of the demand.").*

As per **Claim 22**, the rejection of **Claim 15** is incorporated; and Burke et al. further disclose:

- providing a container for composite application services, the container operable to provide interfaces for non-framework-generated code portions *(see Column 40: 44-46, "The*

Order Management System uses the Integration Framework previously described to link and collaborate with both internal and external systems.").

As per **Claim 23**, the rejection of **Claim 15** is incorporated; and Burke et al. further disclose:

- providing user interfaces to model the composite application, the user interfaces allowing specification of attributes and relations for a business object of the composite application *(see Column 25: 6-18, "The Enterprise Explorer software component allows a user to all definitional content of an object from one user interface." and "The user can also execute the following functions against the selected component: Create, Clone, Compose, Compare, Applicability Determination, Capability Assessment, Derive, Renew and Delete.").*

As per **Claim 24**, the rejection of **Claim 23** is incorporated; and Burke et al. further disclose:

- generating metadata for the business object and relations based on the specification *(see Column 26: 39-41, "Rules which themselves are object definitions can be attached to other objects or object definition ingredients using a drag and drop tactic.").*

As per **Claim 25**, Burke et al. disclose:

- generating executable code for a composite application *(see Column 52: 66-67 through Column 53: 1-7, "A Business Wizard can be used to create a new business application function using the business object definition system in accordance with the present invention.")*;

- exchanging data with a plurality of enterprise base systems *(see Column 34: 20-29, "The integration framework enables the business object definition system to receive and distribute data to create a seamless gateway between the business object definition system and existing enterprise systems.")*;

- presenting the data to the composite application through a uniform interface *(see Column 34: 20-29, "As shown in FIG. 30, the preferred deployment environment includes an integration framework for providing an interface between the business object definition system of the invention and existing enterprise applications.")*; and

- generating user interfaces for facilitating interaction between the composite application and a user by using user interface patterns *(see Column 24: 64-66, "The Explorer and Instance Editor allow a user to view, add, change or delete an instance of object definition.")*.

As per **Claim 26**, the rejection of **Claim 25** is incorporated; and Burke et al. further disclose:

- wherein generating executable code for a composite application comprises coding a template with business object metadata and relation data *(see Column 38: 51-53, "Each template can contain the allowed content along with all the criteria and rules required to create and modify specification instances.")*.

As per **Claim 28**, the rejection of **Claim 25** is incorporated; and Burke et al. further disclose:

- providing local persistency in a database for composite application data *(see Column 34: 6-8, "The database server computer 146 also is configured with a SQL relational database system (RDBMS) for creating and maintaining the database.").*

As per **Claim 30**, the rejection of **Claim 25** is incorporated; and Burke et al. further disclose:

- providing a collaboration service to the composite application *(see Column 52: 50-54, "A Collaborative Design System can be assembled using the business object definition system components in accordance with the invention. Such a Collaborative Design System will allow multiple parties participate in the design and specification of a business object.")*; and
- providing a workflow to the composite application *(see Column 53: 21-30, "Requirements for activity addressing satisfaction of a demand can be formalized as workflows. The invention can be used to create a process to direct and control workflow carried out in the satisfaction of the demand.").*

As per **Claim 31**, the rejection of **Claim 25** is incorporated; and Burke et al. further disclose:

- providing a container for composite application services, the container operable to provide interfaces for non-framework-generated code portions *(see Column 40: 44-46, "The Order Management System uses the Integration Framework previously described to link and collaborate with both internal and external systems.").*

As per **Claim 32**, the rejection of **Claim 25** is incorporated; and Burke et al. further disclose:

- providing user interfaces to model a business object, the user interfaces allowing specification of attributes and relations for a business object of the composite application *(see Column 25: 6-18, "The Enterprise Explorer software component allows a user to all definitional content of an object from one user interface." and "The user can also execute the following functions against the selected component: Create, Clone, Compose, Compare, Applicability Determination, Capability Assessment, Derive, Renew and Delete.").*

As per **Claim 33**, the rejection of **Claim 32** is incorporated; and Burke et al. further disclose:

- generating metadata for a business object and relations based on the specification *(see Column 26: 39-41, "Rules which themselves are object definitions can be attached to other objects or object definition ingredients using a drag and drop tactic.").*

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

19. **Claims 4, 20, 29, 34-36, and 38-41** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Burke et al. (US 6,789,252)** in view of **Mukundan et al. (US 6,901,595)**.

As per **Claim 4**, the rejection of **Claim 3** is incorporated; however, Burke et al. do not disclose:

- wherein the object access layer is further operable to provide data synchronization and replication of enterprise base system data in the database.

Mukundan et al. disclose:

- wherein the object access layer is further operable to provide data synchronization and replication of enterprise base system data in the database *(see Column 6: 46-51, "... server programs are designed and configured to perform one or more specific functions or jobs including ... processing to support mobile web clients for data synchronization and replication ...").*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Mukundan et al. into the teaching of Burke et al. to include wherein the object access layer is further operable to provide data synchronization

and replication of enterprise base system data in the database. The modification would be obvious because one of ordinary skill in the art would be motivated to update both the local and the server database *(see Mukundan et al. – Column 5: 53-55).*

As per **Claim 20**, the rejection of **Claim 19** is incorporated; however, Burke et al. do not disclose:

- providing data synchronization and replication of enterprise base system data in the database.

Mukundan et al. disclose:

- providing data synchronization and replication of enterprise base system data in the database *(see Column 6: 46-51, "... server programs are designed and configured to perform one or more specific functions or jobs including ... processing to support mobile web clients for data synchronization and replication ...").*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Mukundan et al. into the teaching of Burke et al. to include providing data synchronization and replication of enterprise base system data in the database. The modification would be obvious because one of ordinary skill in the art would be motivated to update both the local and the server database *(see Mukundan et al. – Column 5: 53-55).*

As per **Claim 29**, the rejection of **Claim 28** is incorporated; however, Burke et al. do not disclose:

- providing data synchronization and replication of enterprise base system data in the database.

Mukundan et al. disclose:

- providing data synchronization and replication of enterprise base system data in the database *(see Column 6: 46-51, "... server programs are designed and configured to perform one or more specific functions or jobs including ... processing to support mobile web clients for data synchronization and replication ...")*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Mukundan et al. into the teaching of Burke et al. to include providing data synchronization and replication of enterprise base system data in the database. The modification would be obvious because one of ordinary skill in the art would be motivated to update both the local and the server database *(see Mukundan et al. – Column 5: 53-55)*.

As per **Claim 34**, Burke et al. disclose:

- a database for composite application data *(see Column 34: 6-8, "The database server computer 146 also is configured with a SQL relational database system (RDBMS) for creating and maintaining the database.")*;
- an object access layer operable to:
  - exchange data with a plurality of enterprise base systems *(see Figure 34; Column 34: 20-29, "The integration framework enables the business object definition system to receive*

and distribute data to create a seamless gateway between the business object definition system and existing enterprise systems."),

- present the data to a composite application through a uniform interface *(see Figure 34; Column 34: 20-29, "As shown in FIG. 30, the preferred deployment environment includes an integration framework for providing an interface between the business object definition system of the invention and existing enterprise applications.")*, and

- provide local persistency in the database *(see Column 34: 6-8, "The database server computer 146 also is configured with a SQL relational database system (RDBMS) for creating and maintaining the database.")*;

- a service layer comprising:

- a collaboration services module operable to provide a collaboration service to the composite application *(see Column 52: 50-54, "A Collaborative Design System can be assembled using the business object definition system components in accordance with the invention. Such a Collaborative Design System will allow multiple parties participate in the design and specification of a business object.")*, and

- a guided procedure services module operable to provide a guided procedure to the composite application *(see Column 53: 21-30, "Requirements for activity addressing satisfaction of a demand can be formalized as workflows. The invention can be used to create a process to direct and control workflow carried out in the satisfaction of the demand.")*;

- a user interface layer operable to provide user interface patterns for displaying information relating to the composite application, the user interface layer comprising a user interface framework that separates user interface elements from the composite application so that

the user interface framework is decoupled from the logic *(see Figure 34; Column 24: 64-66, "The Explorer and Instance Editor allow a user to view, add, change or delete an instance of object definition."; Column 30: 25-31, "The client software, referred to herein as a browser, resides on the user's client computer, and allows the user to create a search request and send that request into the Internet for processing.")*;

- a business object modeler operable to provide a user interface for constructing a business object of the composite application *(see Column 25: 6-18, "The Enterprise Explorer software component allows a user to all definitional content of an object from one user interface." and "The user can also execute the following functions against the selected component: Create, Clone, Compose, Compare, Applicability Determination, Capability Assessment, Derive, Renew and Delete.")*; and

- a business object generator operable to generate an executable version of the business object *(see Column 52: 66-67 through Column 53: 1-7, "A Business Wizard can be used to create a new business application function using the business object definition system in accordance with the present invention.")*.

However, Burke et al. do not disclose:

- provide data synchronization and replication of enterprise base system data in the database.

Mukundan et al. disclose:

- provide data synchronization and replication of enterprise base system data in the database *(see Column 6: 46-51, "... server programs are designed and configured to perform*

one or more specific functions or jobs including ... processing to support mobile web clients for data synchronization and replication ...").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Mukundan et al. into the teaching of Burke et al. to include provide data synchronization and replication of enterprise base system data in the database. The modification would be obvious because one of ordinary skill in the art would be motivated to update both the local and the server database *(see Mukundan et al. – Column 5: 53-55).*

As per **Claim 35**, the rejection of **Claim 34** is incorporated; and Burke et al. further disclose:

- wherein the business object modeler comprises an object modeler and a relation modeler *(see Column 18: 32-39, "Company-specific and/or industry-specific ontologies, consisting of a lexicon of predefined ingrediential objects and values in taxonomic form, can be defined to the system as business objects. Content-wise they are organized into various conceptual structures that represent the taxonomies of given industry vertical or product groups.").*

As per **Claim 36**, the rejection of **Claim 34** is incorporated; and Burke et al. further disclose:

- wherein the business object generator comprises a generator framework and a persistency generator *(see Column 53: 1-7, "Using the business object definition system, one can*

view a business process (e.g., Engineering Change Order, Change Approval, Specification Preparation, Order Management, Negotiated Bid, etc) as a set of components that can include the following: Demands, Objects of Activity, Demand Satisfaction Processes ...").

As per **Claim 38**, the rejection of **Claim 34** is incorporated; and Burke et al. further disclose:

- wherein a composite application comprises business objects, business services, and business processes, wherein a business service comprises an action performed on a business object, and a business process comprises a combination of business services *(see Column 37: 65-67 through Column 38: 1-28, "A Product Composition System assembled in accordance with the invention provides users with an ability to easily and quickly define new products, dynamically define new attributes, create any required specification or definition, and formalize knowledge ..." and "The business object definition system provides the Product Composition System with attribute-based specification definition, composition and revision control for product models, customer product preferences, manufacturing capabilities, and operator instructions among others.").*

As per **Claim 39**, the rejection of **Claim 34** is incorporated; and Burke et al. further disclose:

- wherein the collaboration services module is operable to link a semantic object to a business object of the composite application *(see Column 51: 55-59, "The Business Object Definition System provides the ability to form a hierarchical semantic network of knowledge*

nodes. The objects present at these nodes may take the form of object definitions according to the invention.").

As per **Claim 40**, the rejection of **Claim 34** is incorporated; and Burke et al. further disclose:

- wherein a guided procedure comprises templates, workflow patterns, and actions, a template describing a guided procedure, workflow patterns describing portions of the template, and actions executing functions to carry out the workflow patterns *(see Column 38: 49-61, "... a user creates templates (i.e. models) for the instantiation of different types of specifications. Each template can contain the allowed content along with all the criteria and rules required to create and modify specification instances. All specifications are configurable via their model definitions. The definitions consisting of ingrediential attribute objects and relationship role objects are modeled into user-definable contextual views or logical groupings called "partitions". Partitions serve as user configurable contexts to capture and apply use. Use of the business object definition system guarantees that all specifications regardless of the type will have the same look and feel.").*

As per **Claim 41**, the rejection of **Claim 34** is incorporated; and Burke et al. further disclose:

- wherein the service layer further comprises a container for composite application services, the container operable to provide interfaces for non-framework-generated code *(see*

Column 40: 44-46, "The Order Management System uses the Integration Framework previously described to link and collaborate with both internal and external systems.").

20. **Claims 14, 17, and 27** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Burke et al. (US 6,789,252)** in view of **Ireland et al. (US 6,266,666)**.

As per **Claim 14**, the rejection of **Claim 13** is incorporated; however, Burke et al. do not disclose:

- wherein the business object generator is further operable to generate tables and proxies for a business object.

Ireland et al. disclose:

- wherein the business object generator is further operable to generate tables and proxies for a business object *(see Column 8: 60-62, "When the system generates a stub for Java or a proxy for ActiveX, the system makes tabular results available through standard interfaces.").*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Ireland et al. into the teaching of Burke et al. to include wherein the business object generator is further operable to generate tables and proxies for a business object. The modification would be obvious because one of ordinary skill in the art would be motivated to provide both component-based development and tabular data *(see Ireland et al. – Column 9: 1-4).*

As per **Claim 17**, the rejection of **Claim 16** is incorporated; however, Burke et al. do not disclose:

- wherein generating executable code for a composite application further comprises generating tables and proxies for a business object.

Ireland et al. disclose:

- wherein generating executable code for a composite application further comprises generating tables and proxies for a business object *(see Column 8: 60-62, "When the system generates a stub for Java or a proxy for ActiveX, the system makes tabular results available through standard interfaces.")*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Ireland et al. into the teaching of Burke et al. to include wherein generating executable code for a composite application further comprises generating tables and proxies for a business object. The modification would be obvious because one of ordinary skill in the art would be motivated to provide both component-based development and tabular data *(see Ireland et al. – Column 9: 1-4)*.

As per **Claim 27**, the rejection of **Claim 26** is incorporated; however, Burke et al. do not disclose:

- wherein generating executable code for a composite application further comprises generating tables and proxies for a business object.

Ireland et al. disclose:

- wherein generating executable code for a composite application further comprises generating tables and proxies for a business object *(see Column 8: 60-62, "When the system generates a stub for Java or a proxy for ActiveX, the system makes tabular results available through standard interfaces.")*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Ireland et al. into the teaching of Burke et al. to include wherein generating executable code for a composite application further comprises generating tables and proxies for a business object. The modification would be obvious because one of ordinary skill in the art would be motivated to provide both component-based development and tabular data *(see Ireland et al. – Column 9: 1-4)*.

21. **Claim 37** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Burke et al. (US 6,789,252)** in view of **Mukundan et al. (US 6,901,595)** as applied to Claim 36 above, and further in view of **Ireland et al. (US 6,266,666)**.

As per **Claim 37**, the rejection of **Claim 36** is incorporated; and Burke et al. further disclose:

- wherein the business object generator is operable to code a business object template with metadata and relation data for a business object to generate an executable version of the business object.

However, Burke et al. and Mukundan et al. do not disclose:

- to generate tables and proxies for a business object.

Ireland et al. disclose:

- to generate tables and proxies for a business object *(see Column 8: 60-62, "When the system generates a stub for Java or a proxy for ActiveX, the system makes tabular results available through standard interfaces.").*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Ireland et al. into the teaching of Burke et al. to include to generate tables and proxies for a business object. The modification would be obvious because one of ordinary skill in the art would be motivated to provide both component-based development and tabular data *(see Ireland et al. – Column 9: 1-4).*

Conclusion

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

A. **Baumeister et al. (US 5,845,289)** disclose a method allowing and guiding the integration and migration of Business Applications (BA) executed on a data processing system into modern environments based on object-oriented technology (OOT).

B. **Inoue (US 5,860,005)** discloses an apparatus for supporting development of information processing systems, applicable to integration of distributed computing environments.

C. **Hosoda et al. (US 5,864,821)** disclose a method and an apparatus, which are capable of carrying out suitable data transmission in business activities in which a series of business processings are carried out through the participation of many business processing sections or many persons in charge of the business processings.

D. **Cheng (US 6,067,548)** discloses an organizational database used as an underlying information system to support distributed and collaborative computing in a global enterprise.

E. **Helland et al. (US 6,134,594)** disclose controlling or managing concurrent access by multiple users to a component-based server application.

F. **Carey et al. (US 6,134,706)** disclose a method for providing a framework, allowing the modeling of businesses with a multiple level organizational structure.

G. **Fontana et al. (US 6,167,563)** disclose a method for building or modifying software components inside a computer system and updating all dependent components automatically in a manner transparent to the user and the computer system.

H. **Moore et al. (US 6,349,404)** disclose a system and computer-implemented method in a repository for discovering, defining and cataloging legacy applications for use in the generation of technology independent business-centric applications.

I. **Caswell et al. (US 6,662,355)** disclose a method for solving the specification problem, which forms the technical foundation for a network-based business automation utility.

J. **Fisher (US 7,076,762)** discloses a system and method for designing or redesigning enterprise applications.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Qing Chen whose telephone number is 571-270-1071. The Examiner can normally be reached on Monday through Thursday from 7:30 AM to 4:00 PM. The Examiner can also be reached on alternate Fridays.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Wei Zhen, can be reached on 571-272-3708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

QC / QC
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